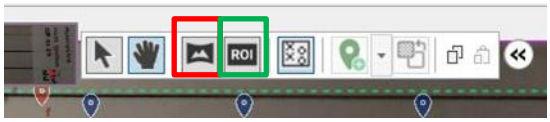
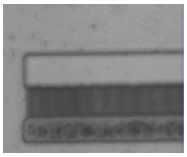
Hyperion user manual

1. Press "unload sample" in instrument control tab, open the slide chamber door and take out previous slide. If it's the tuning slide, put it into the tuning-slide-box. Insert your slide into the chamber, tissue facing upwards and inwards, close the door, and press "load sample" in software
2. Open «data acquisition» tab. Press «new file» to make a new mcd file (or open a previous file). Press "save as" and store it in a new folder named "YYMMDD_Name" on E: in "Hyperion" folder.
3. Send a photo of your slide by e-mail and download it. Press "Import image" in software. Crop/adjust the photo (NB: the left part of the photo should be where the tissue is, rotate if not) and press apply. Press the lock-icon in the top right corner of the photo.
   Alternatively: Co-registration if you have an image of a neighboring section. Contact the FCCF staff for help.



4. Use the zoom tool on the photo to navigate to areas of interest. Draw a **panorama** of the region(s) you want to make ROIs in (regions of interest). Press "Create Panorama" – the camera will then scan the actual slide and create a high-level image (panorama) of the given position. Give the panorama a name. *NB: Use only letters and digits in the names of Panoramas and ROIs*

5. Laser ablation test: **Make small ROIs** next to each other on an area inside the panorama that you don't wish to acquire. Check the size of the ROIs (15-30 seconds per ROI is enough for laser test). Mark the ROIS, press "Template", find your template (or make a new one) and apply to the ROIs, then give them increasingly higher laser energies, F.ex from -2 to 5 dB. Press run. The laser energy that gives the best result should be chosen for the actual ROIs on this slide.
   NB: For new tissue types, preparation method or section thickness you should always do a laser ablation test to avoid under or over-ablation of the tissue.



Unablated region
Optimal: clear (bright) ablation region
Too high: cutting through glass
Too low: leaving ghost material behind

6. Make ROIs for the areas you wish to ablate. Apply template and the chosen laser energy. Check "save image".
7. Press Start to start running. The ROIs that are checked will be run.

Shutdown

1. Take out slide: Press «Unload sample». Open the slide chamber door, and when the slide stage has moved all the way out, you take out your slide and enter the tuning slide from the box «3-element tuning slide». Make sure "this side facing down" is facing down. Close slide chamber door and press "Load sample".
2. Stop plasma: Press the Stop button in the software in the instrument control tab, and wait for the message "Plasma stop sequence has finished successfully" in the log manager window (~4 min).
3. Turn off the Helium **AND** Argon gas supplies on the wall.
4. Turn off the Hyperion by switching off the power button
5. Close software
6. Send your files by e-mail/dropbox
7. If you have purchased reagents from the core facility, this must be logged in the "CyTOF reagents" spreadsheet on the desktop on the workstation computer in room K03-078 (room with antibody/conjugation fridge).